

talkous
What measures have you adopted to protect yourself from air pollution? Share your suggestions on htmetro@hindustantimes.com

HOW SAFE IS THE AIR YOU BREATHE? IN A FOUR-PART SERIES, HT HIGHLIGHTS THE DANGEROUSLY HIGH LEVELS OF PARTICULATE MATTER THAT MUMBAIITES BREATHE IN AS A RESULT OF UNCHECKED CONSTRUCTION AND INCREASE IN VEHICLES, AND LOOKS AT WAYS TO MAKE THINGS BETTER

Want to breathe easy again? Here's how

CLEAR THE AIR Experts suggest use of public transport, car-pooling, walking to nearby destinations, planting trees

hindustantimes
the air we breathe
CONCLUDING PART

Badri Chatterjee
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MUMBAI: Air pollution is among the biggest health risks in the world, says the World Health Organisation. Though the problem needs government and community intervention on an emergency footing, Mumbaiites have started taking baby steps in their struggle to check air pollution.

With traffic congestion and choked parking spaces releasing large quantities of pollutants into the air, environmentalists said citizens should familiarise themselves with the city's bus and train routes, and start replacing individual car commutes with car-pooling or bus trips, at least once a week. While car pools are quite popular in Europe and the United States of America, they are gradually catching on in cities such as Mumbai.

In 2009, Vinod Bhatia started a car-pooling service from his Kandivli residence to Andheri and Powai. In addition to reducing air pollution by taking a few cars off the road, he saves 75% on fuel cost. "I started a car pool service with four other Kandivli residents to get to work. Car-pooling brings down traffic congestion, accidents and most importantly, pollution levels," said Bhatia, a travel agent, who now spends Rs60 every day for 45km, as compared to the earlier Rs300.

ENVIRONMENTALISTS POINTED OUT THAT POLLUTANTS CAUSE AS MUCH RESPIRATORY PROBLEMS INDOORS AS THEY DO OUTDOORS

One of the simplest ways to bring down pollution, according to environmentalists, is to invest in efficient public transport. Cycling or walking to locations which would take only five minutes by car is another alternative that will help improve air quality.

"No matter how fuel-efficient your car is, it will emit some amount of pollutants. If we consciously opt for public transport, it will reduce both pollution and traffic," said Gautam Kirtane, research fellow, Observer Research Foundation, a city-based think tank.

Father Savio Silveira, director of the not-for-profit organisation Greenline, said, "If the government provides good public transport, people will happily use it."

Dust from road and building construction across the city accounts for high levels of particulate matter that is responsible for respiratory illnesses such as asthma and bronchitis. Mumbai is in the midst of a construction boom, with old buildings being demolished to make way for high-rises.

"Half the pollution will be reduced if contractors only spray water before and during the demolition of a building. Similar to those used abroad, vacuum machines that absorb dust can also be used," said professor Arnab Bhattacharya, Tata Institute of Fundamental Research.

While most people are aware of outdoor pollutants, there is very little awareness about the contaminants released inside the house. Environmentalists pointed out that pollutants cause as much respiratory problems indoors as they do outdoors. "Indoor air pollutants released from air fresheners, furniture containing formaldehyde and various household cleaners generate toxic fumes. Cutting marble, granite or aluminium should not be done at home," said Sumaira Abdulali, convener, Awaaz Foundation.

Citizens are also looking at electrical equipment to protect themselves from the most lethal pollutants such

WAYS TO REDUCE AIR POLLUTION

AT HOME

- USE SOLAR LIGHTING**, or connect your outdoor lights to a timer
- PLANT TREES**, as they improve the air quality. Trees provide shade and filter, absorb and block pollutants
- TREES CONSERVE ENERGY** and reduce emission from coal-based power plants
- DO NOT SMOKE** indoors
- TEST YOUR HOME** for high levels of radon, a dangerous radioactive gas that is odourless and tasteless

TURN OFF ELECTRICAL and electronic appliances when they are not in use. Also, recycle paper, plastic, glass bottles, cardboard and aluminium cans.

DURING SUMMERS, fill up the fuel tank during cooler evening hours, to cut down on evaporation. Avoid spilling petrol or diesel

DRIVE WISE

- WHILE TRAVELLING** long distances, plan your trips so as to **SAVE FUEL**
- KEEP TYRES** fully inflated and aligned
- WHEN POSSIBLE, USE PUBLIC TRANSPORT**, walk, or ride a cycle
- REPORT SMOKING** vehicles in your vicinity
- JOIN A CAR POOL** or van pool to get to work
- REGULARLY TUNE THE CAR ENGINE** and carry out maintenance checks

BUY SMART

- Buy energy efficient appliances
- Choose efficient, low polluting models of vehicles
- Choose products with less packaging, or packaging that is reusable
- Shop with a cloth bag instead of taking paper and plastic bags from shopkeepers
- Buy rechargeable batteries for devices that are used frequently

ILLUSTRATION: SHRIKRISHNA PATKAR

HELPLINE NUMBERS


Maharashtra Pollution Control Board
Tel: 022-24020781 / 24014701 / 24010437

Awaaz Foundation, a not-for-profit organisation run by Sumaira Abdulali
Tel: 09821520805

Vanashakti, a not-for-profit organisation run by Stalin Dayanand
Tel: 022- 25667183

INDOOR AIR QUALITY MONITORING INSTRUMENT

Indoor air quality monitoring instruments measure temperature, relative humidity, outdoor air calculations, carbon dioxide, carbon monoxide and air-borne particles. These factors are some of the primary components that help measure the occupants' comfort level. In addition to an antenna that provides the air quality readings, the instrument has different buttons to select which kind of gas or pollutant is to be measured.



WHAT THE DOCTOR ORDERED

Medical advice from Dr Sanjeev Mehta, pulmonologist at Lilavati Hospital in Bandra


- Avoid travelling during peak traffic hours
- Avoid using insect/mosquito repellents
- Switch off the car ignition when it's not in use (even at traffic signals)
- Don't burn waste, leaves, paper and plastic
- Use masks whenever there is dust in the air
- Close windows if construction work is happening nearby
- Participate in awareness programmes on air pollution
- Undergo lung function tests on a regular basis

GUARD YOUR HEALTH

Look for regular updates on air quality in your city and report polluting activity such as burning of waste, to pollution control agencies. Check daily air quality forecasts provided by the US Consulate General, on their website (<http://mumbai.usconsulate.gov/airqualitydataemb.html>). The Maharashtra Pollution Control Board website (<http://mpcb.gov.in/>) also provides data on major pollutants in your city.


USE AN AIR PURIFIER

Air purifiers remove pollutants from the air and are beneficial to those with allergy and asthma. Dust, pollen, pet dander, mould spores, smoke particles, dust mite faeces, volatile organic compounds (VOCs) act as allergens. Residents of Hari Om Nagar, which close to the Mulund dumping yard, have started using air purifiers to avoid inhaling smoke released from burning plastic.



SAY NO TO FIRECRACKERS

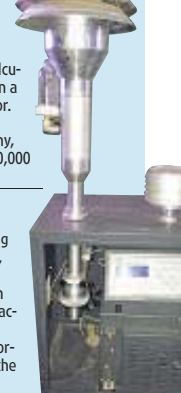
Firecrackers contain poisonous chemicals such as carbon monoxide, sulphur dioxide and heavy metals. Sumaira Abdulali, environmentalist, said, "Don't use firecrackers that produce excessive smoke, or without checking their chemical composition. Use them in clear areas where there is no risk of burning garbage, plastic or thermocol." Dr Ujjwala Rajendra Patil, 38, who was diagnosed with bronchitis at a very young age, said, "The use of firecrackers pose health hazards for people suffering from asthma, bronchitis and other breathing disorders."



SENSOR BASED MONITORING SYSTEM

A sensor based monitoring system is a low-cost instrument that can be used to calculate the air quality at different areas, within a radius of three kilometres around the sensor. Designed by students at the University of Newcastle along with a Delhi based company, the instrument is available in India for Rs10,000 to Rs15,000.

RAKESH KUMAR, chief scientist, National Environment Engineering Research Institute, said, "Different cities across the world are using such small instruments by placing them on top of light poles. People in Beijing have started monitoring the areas around their homes to check the air quality."



face to face

SHARAD GOKHALE, professor of environmental engineering, IIT Guwahati

'We need source-wise mitigation of sources of pollutants'

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MUMBAI: Sharad Gokhale, professor of environmental engineering at the Indian Institute of Technology, Guwahati, specialises in the study of urban air pollution and environmental noise. He spoke to HT about the role of citizens and the state in reducing air pollution levels.

What can people do to protect themselves from air pollution involving dust from construction sites and pavements of roads?

We need source-wise mitigation of different sources of pollutants in Mumbai. A construction site should be enclosed with a cloth or metal screen to prevent dust generated from blowing out of the site. During the clearing of the site, water should be sprinkled to reduce dust. Sidewalks are usually not paved or tiled, and become another important source of dust, which is re-suspended when a vehicle passes. Open burning of tyres and other solid waste should be banned. People need to use bus transport whenever possible and adopt car-pooling. Authorities have to make public transport adequate, comfortable and accessible. To encourage walkers and cyclists, sidewalks need to be safer.

What are the primary causes of indoor air pollution at workplaces or residential areas, and their remedies?

We spend most of our time indoors. According to the global burden of disease report, indoor air pollution is ranked the third major cause of deaths. There are sources of pollutants indoors such as paints, used furniture, house-cleaning detergents, cooking and smoking. Certain lifestyle related practices are taking a toll on our health. Nowadays, houses are painted with sprayers instead of brushes, with particles from paints becoming airborne. In offices, replacing old equipment with new ones can reduce ozone levels. Planting trees on both sides of the road arrests pollution significantly. A specific crown size and height in trees can manipulate the dispersion of air pollutants within traffic corridors, to help reduce exposure to air pollutants.

Can you give us an example of a city that has adopted unique measures to save citizens from bad air quality?

There is no city where a specific action has changed the pollution scenario drastically. A few cities in the world are regarded as clean and better despite being populated and industrialised, such as Honolulu in the USA or Calgary in Canada, or Singapore. They have adopted use of public transport, well-planned infrastructure, enforcement against smoky vehicles, tightening of air quality standards, over the years. They have also adopted serious mass awareness programmes about the causes of air pollution and its effect on our children and elderly people.

What according to you is lacking in the endeavours of state government bodies that calculate RSPM, NOx and SO2?


These bodies need to take greater responsibility than mere monitoring of air pollutants and uploading information on websites. A special cell needs to be introduced for dealing with vehicular pollution in urban centres. They can identify the attainment and non-attainment areas, hotspots, and issue a public warning of harmful effects of air pollution and what people should do. Technological solutions may take a while, but by involving people, the state pollution control board can address this issue. Collective effort can work wonders.



expertsspeak


WE MUST PLANT MORE TREES. THIS IS THE SIMPLEST OF THINGS THAT WE CAN DO TO REDUCE POLLUTION LEVELS.

GAUTAM KIRTANE, research fellow, Observer Research Foundation




ENSURE YOUR CAR'S POLLUTION UNDER CONTROL CERTIFICATION IS UP TO DATE AND COMPLAIN IF YOU SEE ANY VEHICLE PRODUCING EXCESSIVE EXHAUST FUMES.

SUMAIRA ABDULALI, environmentalist, Awaaz Foundation



AIR CONDITIONERS ARE A MAJOR CAUSE FOR CONCERN. ACs CAUSE AN INCREASE IN EMISSIONS, WHICH IN TURN POLLUTE AIR.

SAVIO SILVEIRA, director, Greenline



AIR MONITORING SYSTEMS SHOULD BE MAINTAINED AT DIFFERENT LOCATIONS IN THE CITY. CITIZENS MUST CONSTANTLY MONITOR AIR POLLUTION DATA RELEASED BY THE STATE POLLUTION CONTROL BOARD.

STALIN D, environmentalist, Vanashakti

